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Montana Rangeland Resource Program

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Montana Rangeland Resource Program

Assembled by
Peter V. Jackson

For

Department of Natural Resources and Conservation
Conservation Districts Division

FOREWORD

Montana is blessed with vast areas of rangeland. This resource must be managed so the grass will grow tall and lush and abound with herds of livestock and wild game that will be fat, sleek and plentiful.

This can be a reality through cooperation, and application of common sense and technical knowledge.

Livestock production is the major income producing industry in the state. The potential for income from recreation and aesthetic values has hardly been tapped. The ranchers' income from livestock and uses other than livestock production can be increased many times.

Montana has 54 million acres of rangelands and 11 1/2 million acres of grazable timber lands. This is 70% of the total area in our state.

When Montana was settled in the late 1800's these rangelands were considered of little economic value because it was not possible to crop or log them for a profit. The rangeland was indiscriminately loaded with livestock and in many instances badly abused by overgrazing, plowing and general disregard for the natural range resources.

In recent years many individuals, with the help of universities and agencies, have been doing a good job of rebuilding these lands, but there is still much to be done. It is the purpose of this plan to correlate, coordinate, advise and counsel the range management efforts of today.

With improved rangeland management Montana's ranching economy can increase by many millions of dollars. This can be accomplished while providing additional recreation opportunities and giving permanent protection to the renewable natural resources for today's people and the generations to come.

Summary of

MONTANA RANGELAND RESOURCE PROGRAM

Montana is primarily a rangeland state. Approximately 70 per cent of the area is grasslands. The largest source of income in Montana is livestock production, which is based on the grazing of these lands. Nearly 90 per cent of the grazing for livestock and 65 per cent of the forage for big game animals is produced on privately owned lands.

Historically, much of the rangeland of Montana was overgrazed or mismanaged. In recent years management has improved. Today, they are producing about one-half of their known potential.

Much progress has been made where range research, information from the universities, and technical assistance have been employed. These services are high in quality and form a nucleus of very successful movement to improve Montana ranges. Coordination of existing services and extending these services to all ranges throughout the state is needed.

Rangeland Resource Program Conceived

The improvement of our environment and a vast potential for increased revenue are available to Montana ranchers and the general public through better rangeland management. Realizing this, the Hill County Conservation District requested the State Conservation Commission to investigate the situation and to propose a program for statewide rangeland improvement.

A special State Rangeland Resource Steering Committee was formed with Peter Jackson appointed Chairman. The Steering Committee developed a program which was approved by ranchers and representatives of state and federal agencies.

The Montana 42nd Legislative Assembly approved it by joint resolution and supplied financing through the Montana Conservation Commission for implementation.

II

Content of Program

The program includes the following material:

1. A list of persons and organizations who have responsibilities to range management.
   a. Private landholders
   b. State agencies
   c. Federal agencies
   d. Technical assistance available
   e. Private organizations

2. Basic data necessary to make program operable.
   a. Soil and range surveys
   b. Topographic maps
   c. Climatic information
   d. Range condition
   e. List of recreation uses on rangeland

3. Today's major demands and uses of Montana rangelands.
   a. Livestock forage
   b. Wildlife habitat
   c. High quality water production
   d. Pollution control
   e. Erosion control
   f. Recreation uses
   g. Natural beauty of state and other aesthetic values
   h. Site for urban and industrial areas

4. Ten year goals for completion
   a. Eighty per cent of the range under intensive management planning
   b. Fifty per cent of the range in excellent condition and thirty per cent in good condition
   c. Forty per cent increase in usable forage
   d. The stockwater potential eighty per cent developed with the balance being improved
   e. Five-fold increase in recreational use
   f. An improved wildlife habitat on native ranges to provide a more stable wildlife population

Each goal is considered in the program with the situation described, the goal stated clearly, the approach listed, monetary returns projected, and a timetable for progress.

Environmental enhancement for the public is included to show the importance of range and a Rangeland Resource Program for all people.

III

Range Improvement is Important

A primary benefit that will come directly from range improvement will be a significant reduction of soil losses from wind and water erosion on rangeland. Water and air pollution will be minimized. Stream flow stabilization and a clean sediment free water supply will provide for future expansion of urban and recreational needs. Range improvement will add to the natural beauty of the state and hopefully attract more tourists to improve the economy.

To the people of Montana the most important direct benefit from range improvement is the increase of cash flow. Cost and return figures on livestock operations carried out by ranchers assisted by Conservation Districts show that if each acre below good condition class were improved to good or excellent condition and properly managed, the annual net return would amount to nearly 70 million dollars additional income to Montana each year just through the sale of livestock products resulting from range improvement.

The present annual income from tourists and out-of-state recreationists amounts to about $125,000,000. Space is needed for outdoor recreation and much of this must be provided from private lands. Rancher's income from this source could be enhanced with improved range conditions and a change in ranch management operations. Ranchers have a golden opportunity to supplement their regular income by taking advantage of recreational opportunities such as paid guide services, pack trips, family ranch vacations, hunting, fishing and camping privileges, etc. These enterprises plus the necessary supporting businesses such motels, hotels, restaurants, sporting goods stores, etc. would add materially to the annual income of the state.

Simultaneously, an increased tax base will be established. Revenue from income tax will be increased by an impressive amount. Property values can be expected to increase and be stabilized with the improvement of range conditions and development of recreation facilities. Tax revenue from eventual increased livestock numbers resulting from range improvement will be appreciable.

Other benefits will be savings of money and environmental improvement from reduction of pollution and erosion from the rangelands. There should be lower maintenance costs on city water supply systems, less pollution in streams and lakes, and less flood damage. A high quality stabilized water supply will make water development for both urban and rural areas much cheaper and more dependable.

Implementation of the Program

In putting together the Montana Rangeland Resource Program, apparent conflicting situations were considered.

Any program that affects such a large industry as agriculture in Montana requires the approval and participation of the primary person affected, which is the land occupier or rancher.

To get this support, it is necessary to strictly adhere to the basic fundamental concept of freedom for an individual to work and live in his own way and to earn a living for his family, provided he does not encroach on the freedom of others. With this freedom goes the responsibility of a citizen to protect the natural resource of his land so all people will have the same privileges to live and work in the free manner we enjoy today.

Those who are responsible for safeguarding the land are entitled to technical assistance, advice and guidance in management and use of the resources which is now provided by state and federal agencies in Montana. With this in mind, this program is based on counsel and advice from knowledgeable people in the field. If people are properly informed, management planning is coordinated between private landowners and public land management agencies. Then proper range management of native ranges can become a reality without the need for additional rules and regulations.

To accomplish the goals outlined in the program, the first and most important need is for coordination. Implementation of the program will require the services of qualified persons. Their qualifications require a good practical working knowledge of ranch operations plus an understanding of the many additional uses and responsibilities for which range is suited. The abilities to communicate and to negotiate between ranchers, agencies and other affected parties are necessary qualifications of these individuals.

Examples of their duties would be:

1. Work to improve conditions to minimize weaknesses in fire protection, vandalism, litter and public liability.

2. To assist ranchers and recreationists to become more compatible.

3. To make more effective use of existing services in planning, research, and education from the existing agencies and institutions.

4. To provide consultation on the following projects:
   a. Reclaiming mined over areas and exploratory prospect disturbances for minerals, coal and oil.
   b. Urban beautification plans in range settings.
   c. Highway beautification.
   d. Waste disposal area reclamation.
   e. Sediment reduction and pollution prevention and abatement.
   f. Other projects listed in the State Rangeland Resource Program.

Advisory responsibility and guidance will be secured from a council of ranchers and authorized representatives of state and federal agencies and other organizations interested in rangeland management.

Conclusion

Application of this State Rangeland Resource Program may be a "first". Never before has general broad area planning of the rangeland ecosystem been attempted on this large a scale.

The opportunity is here; the need is great; the goals are high. The challenge can be met through the properly coordinated, sincere efforts of all who will benefit from this important program.

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INTRODUCTION

AN IDEA IS BORN:

Realizing the serious degradation of our rangelands and the vast potential for a new source of revenue becoming available to the Montana rancher and farmer through improved management and renewal planning on our rangelands, the Hill County Conservation District felt it necessary and vital, in their District, to seek means of improving Hill County's rangelands.

After considering the several sources of assistance available and noting it was not a problem unique to Hill County, they decided it would be a most worthwhile endeavor, and a real potential for increasing the income to all farmers and ranchers, as well as to the state of Montana, if it were a statewide program.

With this thought in mind they embarked upon a plan to further their cause. On April 16, 1969 they made a formal request to the Montana State Soil Conservation Committee to make a study of the range resource potential and to coordinate a comprehensive development program with other agencies and organizations. This study was to include all rangelands in Montana.

The State Soil Conservation Committee, because they were an agency of state government, was designated to handle the task. They were, by legislative mandate, to offer assistance to coordinate programs and disseminate information through the state concerning the activities and programs of Montana's Conservation Districts. Further they may request assistance from any state and federal agency for the purpose of carrying out any of their assigned functions.

On June 2, 1969 at their regular meeting, the request was formally acted upon by the State Committee. At that time, Mr. Peter Jackson, rancher and SWCD Supervisor, was named by the State Committee Chairman to select a steering committee and utilize all available means to draft a rangeland improvement program to be submitted to the Governor for his approval.

The Department of Natural Resources and Conservation commends the Hill County Conservation District Supervisors for their forward look and deep concern about a resource matter so vital to the state. The Department is fully aware of the beneficial effect such a statewide program may have, if properly utilized and if recommended developments are eventually incorporated on the land. The Governor and his staff have expressed their concern for proper use of resources in the state so people today and those tomorrow may continue to benefit to the fullest degree.

PERSONS AND GROUPS WHO HAVE RESPONSIBILITIES FOR RANGELAND MANAGEMENT

Following is a list of private individuals, groups, and organizations that have responsibility in the management of our grazing lands. In the appendix is a section that briefly describes the responsibilities of the categories listed.

A. Private land holders
   1. Individual Ranch Owners-Operators
   2. Absentee Owners
   3. Renters and Share Croppers
   4. Corporations (Example: Anaconda Company, St. Regis Paper Company, etc.)
   5. Grazing Associations (FHA Financed)
   6. Project Areas (CD sponsored)
   7. Indian Reservations
   8. Railroads, etc. (Utilities)

B. State of Montana
   1. Department of State Lands
   2. Department of Fish and Game
   3. State Cooperative Grazing Districts
   4. Department of Natural Resources and Conservation
      (a) Conservation Districts Division
      (b) Forestry Division
   5. Conservation Districts
   6. State Experiment Stations

C. Federal
   1. Forest Service
   2. Bureau of Land Management
   3. Bureau of Indian Affairs
   4. National Park Service
   5. Bureau of Reclamation
   6. Bureau of Sport Fisheries and Wildlife
   7. Agriculture Research Service
   8. Army Corp of Engineers

D. Technical Assistance
   1. Soil Conservation Service
   2. Cooperative Extension Service
   3. Department of Animal and Range Science, Montana State University
   4. School of Forestry, University of Montana

E. Financial Responsibilities
   1. Individual Land Owner-Operator
   2. Banks
   3. P.C.A. (Production Credit Association)
   4. F.H.A. (Farmers Home Administration)

5. Insurance Company Loans
6. Federal Land Bank, etc.
7. Great Plains (Soil Conservation Service)

F. Private Organizaions Interested in Range Management
1. Society for Range Management
2. Montana Association of Conservation Districts
3. Rural Area Development
4. Agricultural Lenders Range School
5. Montana Conservation Council
6. Wildlife Federation
7. Rod and Gun Clubs
8. Montana Stockgrowers Association
9. Montana Woolgrowers Association
10. Montana Cattlemen's Association

THE MAJOR DEMANDS AND USES OF MONTANA'S RANGELANDS

History tells us that Montana was a near paradise for native birds and animals. Grass was lush and water was clean. It was self-supporting for its inhabitants with nature in balance.

Then the white man came and things changed rapidly, mostly for the worse. During the last few years these degrading conditions have been reversed and improvement of the environment has started to take place. Simultaneously, a new set of factors has been quietly taking shape. The population of our state has risen steadily and today their increasing demands have placed new responsibilities on every acre of land. This has created a need for broad area resource planning.

To more ably describe the situation, this section lists and briefly explains the demands and responsibilities of the rangelands today.

Livestock Forage

The largest single demand on Montana's rangelands today is production of forage for domestic livestock. The products of the livestock industry are in strong demand. This demand plus the high cost of production forces the stockman to run the maximum number of animals he can possibly sustain.

Today Montana's rangeland resource is absorbing this pressure and, on the average, the condition of the vegetation is improving slightly. However, statistics show the pressure of more people and all their needs are going to become greater each year.

In the near future the rangelands of Montana will need to produce forage for a much larger number of domestic animals. It is felt that the demand for livestock forage on Montana's rangelands will grow steadily stronger in the future and will continue to be the number one demand for the next several years.

Wildlife Habitat and Forage Supply

Montana's rangelands are the native home of a large number and variety of wildlife. The number and species have fluctuated greatly over the years since the white man came. During the first part of this century their numbers decreased until nearly every kind of animal was in short supply. This situation alarmed many people and laws were written for their protection.

This demand is an important one. As the human population increases there appears to be a greater interest and desire for more wildlife. Our increased knowledge of ecology and environment indicates that a nature balance is a key to the survival of man.

It has been concluded that the need for wildlife will continue to grow for years to come and if this demand, coupled with others, is to be met, rangeland conditions must be improved at an accelerated rate to protect this resource.

Water Production

Water production has in the past been given too little attention as a responsibility of the rangelands. Until recent years water was abundant and little thought was given to it except in time of flood or extreme drought. Today increased numbers of people are demanding water in previously unheard of quantities. These demands will continue to expand.

Montana is a major upstream producer of fresh water. The vast acreage of rangeland (70% of the land area) is tremendously important from a water production standpoint.

A more dependable flow of water can be received from rangelands only if a protective cover of vegetation is maintained year around. This requirement does not restrict the harvest of grass, but does require that a good grass condition be maintained at all times. Increased water production will be obtained where there is good vegetative ground cover. Under these conditions runoff is controlled and stream flow is maintained on a year around basis. Thus, a dependable supply of water is assured.

In the future, the rangelands will be expected to produce the maximum amount of good clean water. Good vegetation management planning will help assure reaching this goal.

Pollution Control

Pollution is being recognized today as a danger to the health and prosperity of our country. It is the responsibility of every person in the state and nation to be sure that all necessary pollution control measures are taken.

Generally, Montana's rangelands are not heavy contributors to water pollution but if allowed to deteriorate to low condition they can very well create havoc with our streams and rivers by choking them with silt.

Pollution on rangeland is easily controlled by maintaining the vegetation in good to excellent condition. In the future pollution abatement and control must be considered one of the major responsibilities of Montana's rangelands.

Soil Erosion Control

The problems arising from soil erosion were overlooked in the process of settling our nation. In recent years, when the last frontiers were opened and we awoke to the realization that there is an end to the supply of soil, we began to show our concern for the resource that in one form produces all our food and fiber.

Many thousands of acres of rangeland in the nation and Montana have been badly eroded by wind and water with the resulting loss of untold dollars worth of top soil. Our nation can no longer overlook the loss of this important resource. It is imperative that our rangelands be protected from erosion at all times. This can be successfully done with good vegetative cover maintained in a condition that will stop wind erosion in times of drought and water erosion during flood or natural spring runoff periods.

Recreational Area for Public

The need for recreation has increased with the rapidly expanding population. Today people have more time to enjoy themselves than ever before. This creates another use on the land in addition to the production of food and fiber. The agricultural and forest lands are limited as to the number of people that can live and use them.

Therefore, the rangelands are being looked to as areas where recreation activities can be enjoyed. To the surprise of many people, the rangelands are well suited to this new and additional demand. These lands, when they are in top condition, support large numbers and kinds of wildlife and are easily seen and enjoyed.

Rangelands abound in many other interesting recreational values such as scenic beauty, hunting and fishing opportunities, artifacts, historic sites, gems, etc. They also provide vast open spaces for the quiet and solitude that becomes necessary as our population increases.

Montana's rangelands, handled and cared for in prudent manner with due respect for their fragile condition, can easily supply the increased demands that recreation will place upon them.

Natural Beauty

Properly managed rangelands are a beautiful sight to behold. The early explorers and pioneers wrote in their diaries of the wonderous waving seas of grass spotted with patches of shrubs and trees.

Now that the land is settled we are once again thinking of having a more attractive land to live in.

People today are demanding beauty in their homes, business and recreation areas. The need for natural beauty ranks high in the list of environmental values. Environmental quality has come into its rightful place of importance in the scheme of things.

The responsibility for natural beauty on rangelands can be fulfilled by maintaining a cover of grass that will enhance the settling of towns, urban developments and recreation areas. Well-maintained grasslands provide a beautiful backdrop for everyone - both urban and rural.

Future Urban and Industrial Areas

The expanding population and demands for goods and services are rapidly using the available areas left in the agricultural lands that are not essential for food and fiber production. Zoning laws are being passed and enforced in nearly every state in the Union.

With all these curtailments the rangelands are logical areas for expansion for urban and industrial growth.

The impact of this demand is serious because the rangelands are usually in fragile areas and this type of development is difficult to control with the press of modern transportation and large numbers of people. Zoning regulations and enforcement, along with intensive management, are logical methods for meeting this demand.

Strict control must be exercised if these demands on the rangelands are to be met.

GOALS FOR RANGELAND MANAGEMENT IN MONTANA

This section sets out the goals, objectives, and direction of the Montana Rangeland Program. A portion of this section is devoted to a detailed discussion of each goal. The situation is described, the goal set, the approach for gaining the goal outlined, the income potential from the completion of the goal is established, and finally, a time table is forecast.

It is not the intent of the program to adhere strictly to the letter in each goal, but instead, to aim for the objectives and surpass the goals if possible.

Should additional or alternative goals and objectives become necessary, changes should take place.

In this section lies the heart of the entire program, for action is the key to attaining progress.

10 YEAR GOALS

1. 80% of the pastures and native ranges will be operated under some form of intensive management planning.

2. 50% of the native ranges will be in excellent condition and 30% in good condition.

3. Native range and pastures will be producing 40% more usable forage.

4. 80% of the native ranges will have stockwater fully developed, plus the remaining 20% being developed.

5. Recreational use of the range grass will increase by 500%.

6. The wildlife habitat on native ranges will be improved to provide a more stable wildlife population.

Guidelines for Implementing Goal No. 1

RANCH MANAGEMENT PLANNING

Situation

To be economically sound, total unit ranch planning is necessary in developing range resource management plans. All animals need to be considered and a balanced forage resource program developed. The end result means hastening improvement of native rangeland, making full use of the productive potential of the arable land, and, ultimately, increasing the ranch income.

Ranchers find it pays to systematically inventory their ranch resources and then balance land use with grazing animal numbers to sustain natural resources.

Range improvements on private lands show that in recent years many ranchers have been doing a good job of developing and carrying out management plans. Nearly 5,000 ranchers have developed conservation plans on more than 24,000,000 acres of rangeland in cooperation with Conservation Districts.

State and federal agencies such as Forest Service, Bureau of Land Management, Department of State Lands, Bureau of Sport Fisheries and Wildlife, Department of Fish and Game, and Bureau of Indian Affairs develop and carry out management plans on lands they administer in cooperation with their lessees or permittees.

Goal

To have 80% of Montana's native ranges operating under some form of intensive management planning.

Approach

Management plans will naturally vary with each ranch unit and therefore should be based on the needs of the individual ranch operation.

Memoranda of Agreement between federal, state and private participants will be encouraged to coordinate the efforts in correlated planning on interspersed ownership patterns with the same management unit.

To develop a range management plan, the following items should be considered:

A. Obtain a resource inventory of the entire unit.
   1. Soil and Climate
   2. Range site and condition - acres
   3. Dryland and irrigated pasture - acres
   4. Hay and cropland acres
   5. Physical layout: fences, pastures, stockwater developments, etc.
   6. Type of operation: cattle, sheep, wildlife, cow-calf, etc.
   7. Capital and credit available
   8. Ownership and tenure arrangement

B. Present method of operation
   1. Present balance of range, tame pasture, hay and animal numbers
   2. Complete budget arrangement

C. Alternatives in the process of planning
   1. Land use adjustments necessary
   2. Balance feed, forage and animal numbers
   3. Range practices (proper use, grazing systems, brush control, fencing, stockwater development, range seeding, etc.)

D. Planned decisions of the operator or manager

Technical assistance in resource planning is available to ranchers and state and federal agencies from the Extension Service, Soil Conservation Service, and private range consultants.

The Bureau of Land Management and Forest Service are developing intensive management plans on as many grazing units of their lands as time and finances permit.

It is essential that affected agencies and ranchers work closely together in a coordinated effort to implement the goal of intensive management plans on rangeland.

Accomplishment of this goal will result in the highest practical returns in terms of forage production for livestock or game animals, recreation values and watershed protection. It will minimize erosion and pollution programs, increase aesthetic values and help to stabilize the ranching economy as well as the rural community.

Financial Impact of Ranch Management Planning

The economic potential from intensive management planning can amount to several millions of dollars in annual increased income to the state from the livestock industry. The income from uses other than livestock production can be increased several times. Monetary savings from erosion and pollution control and the value of water production and stabilization would also be great.

Time Table for Goal No. 1

4 Years	- Planning	50% Complete
6 Years	-	60%
8 Years		70%
10 Years		80%

Guidelines for Implementing Goal No. 2

RANGE CONDITION ON NATIVE RANGES

Situation

In general, the native ranges today are in the following condition: 20% in good condition, 38% in fair condition and 10% in poor condition. Only 32% are in excellent condition or producing their full potential. Efforts in intensive management are being applied by ranchers and state and federal agencies. More effort is needed.

There are excellent Range Management Schools in the universities. Enrollment in both undergraduate and graduate courses will need to be increased to meet the future demands for rangeland resource management. Research is being carried on by the universities, Extension Service and federal agencies. A rough estimate is that the research being done today is 35% of the need.

Lending agencies are showing interest by sponsoring an Agricultural Lender's Range School and hiring good agricultural representatives. Their increased knowledge of range management is definitely an asset to the industry. However, some lending agencies still base their financial statements on cow numbers rather than calf crop percentages, market weights, range condition, and other resource management factors.

The industry as a whole is now at the point where range management is being seriously considered as an art and a science.

Goal

50% of the range in excellent condition
30% in good condition
20% in fair or poor condition, but improving

Approach

Education must receive the highest priority. Ranchers are slowly recognizing the fact that range management does pay. A well-coordinated educational program should be developed by the schools (all levels) and agencies. Demonstration areas at strategic locations should be developed as a joint effort by agencies. Banker and rancher range schools should be quadrupled in number and spaced conveniently about the state. The attendance at range schools should not exceed about 50 participants for peak efficiency.

A joint drive should be coordinated by agencies to acquaint all persons in related industries and urban areas to the importance of range management and the economic and aesthetic value of good to excellent condition range.

Legal language should be developed to enable incorporating range management clauses and phraseology as standard statements in contracts, leases, and other land management agreements for ranch units.

Conservation Districts should consider hiring range specialists when the work load requires extra manpower for implementation and follow-up.

Project areas can be created to plan and carry out large range management projects such as complex stockwater development, large reseeding areas and timber and brush control projects. Such projects would involve and benefit ranches or whole communities.

Agreements should be entered into between persons and agencies to insure that projects will not conflict with each other from lack of planning or joint approach; also, to stop the possibility of a project damaging one area while improving an adjacent area.

All persons responsible for range management and development in Montana should take part in a symposium on grasslands. The function of the symposium would be to develop acceptable methods, specifications and work procedures that will be used by all in a common attack on range problems.

A firm, enforceable set of practical range management regulations should be developed by the State Lands Commissioner to instill good, up-to-date management on school trust rangelands.

State planning agencies should be persuaded to apply their efforts on the basis of the importance, size and potential of the natural resources in Montana. Additional ASCS practices should be developed to help accelerate improvement in range condition. The Great Plains Program administered by the SCS should continue to emphasize range improvement. FHA should give a high priority to range improvement loans.

Financial Impact of Range Condition Improvement

Increased value of improved land
Increased livestock numbers
More pounds of livestock products produced as a result of increased lamb and calf crop percentages and heavier marketing weights.

Tax base increase
Natural beauty value

The above items will make a direct contribution to the general economy of the state of Montana by several millions of dollars annually.

Time Table for Goal No. 2

Public land to be in 50% excellent, 30% good and 20% fair condition in 8 years.

Private land:

	Excellent	Good	Fair	Poor
4 Years	30%	30%	30%	10%
6 Years	40%	30%	20%	10%
8 Years	45%	30%	15%	10%
10 Years	50%	30%	15%	5%

Guidelines for Implementing Goal No. 3

NATIVE RANGES PRODUCING 40% MORE USABLE FORAGE

Situation

The amount and quality of usable forage is directly related to the condition of the native ranges and pastures.

Today Montana is producing a grass crop that is far short of the potential capacity in both quantity and quality. Under natural conditions the principle controlling factors are use, soil, water and temperature.

The largest single factor affecting range condition is grazing use. Use also dictates the quality of feed still remaining to be harvested because the plants that resist overgrazing usually are poor in both production and nutrients.

Large areas of our range and pasture lands have been farmed for short periods of time with dismal results. These lands are often left to recover as best they can with whatever help nature can provide. During recent years, a large amount of these lands have been seeded to various kinds of tame grasses whose life span and total production leave a great deal to be desired.

Research in grass varieties has been pushed forward in the last decade until today the possibilities for increased production are excellent.

Goal

To increase range and pasture forage production by 40%

Approach

A large percentage of the increase in production from ranges and pastures will be accomplished by rebuilding the range condition through application of proven practices. Examples of these are rest rotation, deferred grazing, fencing and brush or scrub timber control. In many areas weed control will aid in improving range condition. Application of these practices or methods will account for a large percentage of the potential increase of usable forage.

To further increase production from these lands, we must expand and improve on nature's methods.

During the last twenty years tremendous advances have been made in reseeding, fertilizing and water retention practices. Many of these are still in the experimental stage, but a great number are proven and should be promoted to get extra production.

Education programs should be broadened and intensified to get more action in range improvement practices such as deferred grazing, seeding, renovation, scalping, stockwater development, cross fencing, intensive grazing systems, and brush and scrub timber control.

More tours should be promoted on the Experiment Stations, Agricultural Research Centers and Plant Materials Centers to acquaint ranchers with the most modern concepts available.

Many more demonstration plots and ranches are needed to show ranchers and the general public the potential possibilities in their home area. Agencies should promote the use of native grass seed wherever practical. In isolated cases where soil moisture is adequate, field trials on fertilizers should be promoted on seeded areas.

Cultivating and reseeding of poor condition native ranges may be the answer since existing species will take too long to gain the necessary forage increase.

Financial Impact from Usable Forage Increase

The largest economic increase from forage will be in domestic livestock production.

A definite increase in weaning weights will be realized from more and higher quality feeds.

The result will be more pounds of meat produced from the range.

Time Table for Goal No. 3

Public lands should have gained their increased forage in 8 years.

Private land:

4 Years -- 15% increase of usable forage

6 Years -- 20%

8 Years -- 30%

10 Years -- 40%

Guidelines for Implementation of Goal No. 4

WATER DEVELOPMENT ON NATIVE RANGES

Situation

Montana is a land of extremes. Our weather has a wide range both in heat and cold, dry and wet, windy and calm. The vegetative cover, erosion and sediment production on the rangelands are directly affected by these extremes.

In the process of harvesting the maximum grass crop from our rangelands with livestock and wildlife, one of the most important factors is a good supply of usable water, strategically located.

Research in recent years has been conducted on grazing patterns and the result measured in pounds of gain. The increased lamb and calf crop percentages has clearly shown the importance of water, its location and amount. For example, excellent condition range with an ample supply of drinking water will significantly out-produce the same type area where animals must travel excessive distances to drink.

This effect is further complicated by weather conditions. When animals have to travel a long way in hot weather, their gains are cut severely and in extreme cases, weight is lost. The same holds true during periods of cold weather. Animals can digest rough feed and make gains in cold weather if their supply of water is open, convenient, and plentiful.

To obtain the maximum efficiency in grazing distribution and harvesting of the grass, water is a significant factor and it must be seriously considered in all range planning and development. During recent years, improvements by industry and advancement in research have opened the door to new and dramatic changes in our approach to water development on our rangelands. With the development of plastic pipe, which can be installed by machine, water can be economically piped great distances. In many cases, several operators or a combination of ranchers and agencies can join together in projects to develop large range areas that are little used because of inadequate water.

Goal

To have a fully developed water supply on 80% of the native range and the remaining 20% will be in the process of being developed.

Approach

The distance that animals will travel for water depends upon the terrain, weather conditions and kind of animals.

Springs, where available, are the most practical type of water development. Even when springs are available and in the proper location, they need to be developed and piped into troughs to assure maximum gain in weight and sanitation conditions. Animals that have to wait hours to satisfy their thirst lose time that should be spent grazing. Therefore, ranchers and agencies should be encouraged to properly develop the available water to its maximum.

Ranchers and agencies should be encouraged to coordinate planning of management practices that potentially will benefit one another. A good cooperative plan in many cases can help tremendously in both land development and good relationships between neighbors. Under certain conditions land exchanges may facilitate proper water distribution.

Many unusual stockwater situations can be solved with ingenuity and planning. Examples are pumps powered by water wheels that can be geared to raise water to great heights. Hydraulic rams are also effective in many cases. These installations are reasonably priced and maintenance costs are low. Where groundwater is unavailable by springs, pipelines or wells, then artificial watersheds to collect and store runoff water should be considered and planned. Artificial watersheds are expensive, but to get good water supplies for livestock and wildlife, they may be necessary to gain full development of a range area.

There are many other ways to develop water not described here. The University or Extension Service will be urged to compile a catalog of stockwater development ideas.

Financial Impact of Water Development

Full development of remote ungrazed areas or partially grazed sites will allow for an increase in both livestock and wild game numbers.

Well developed ranges will produce more pounds of livestock production and more winter grazing that will cut expenses. It will also enhance the wildlife habitat.

Erosion and sediment will be cut somewhat by the animals doing less trailing to and from water.

Time Table for Goal No. 4

5 Years	70% of water developed
8 Years	80% of water developed
10 Years	Remaining 20% being planned for development

Guidelines for Implementing Goal No. 5

RECREATIONAL USE OF THE NATIVE RANGE

Situation

The range and grasslands have a wide variety of potential recreational uses. These diverse uses are as varied as the imagination of the people of Montana and the Nation.

The primary uses are hunting and fishing, followed by camping. These are forms of recreation that stem from the pioneer necessity to provide food.

Today people have slowly but steadily shown interest in many other forms of pleasure that can be gained from the grasslands. Examples are hiking, photography, rock hunting, archeology, bird and animal watching and a very recent one, the search for solitude and silence.

Large areas of public land are made available to the general public. But a large portion of private land is slowly being closed as one rancher after another finds it impossible to operate with the general public traveling by free choice over his lands.

The situation today is an increasing demand for decreasing space. The rangelands are potential areas in which large numbers of our confined urban people may find relief from their crowded conditions. A direct benefit of this would be a more healthy attitude in people, both rural and urban.

The attitude of the average rancher today is still very generous and he allows most people the privilege of free trespass. But, as the price-cost and efficiency squeeze continues, this privilege has a limited life expectancy. The landowner may be forced to turn to recreation incomes to get the maximum return from his holding.

Goal

To have recreational use of the range areas increase by 500%.

Approach

The most important factor relative to increased recreational use of the range and/or pasture lands is the condition of the vegetation. Ranges that are in good to excellent condition can withstand a great

deal more trampling from people or disturbance by vehicles than ranges in a poorer condition. Ranges in low condition will deteriorate rapidly under light recreational pressure. Therefore, the basic programs of range improvement are a necessity in gaining increased recreational use.

Range management plans that include recreation as potential development must consider such things as picnic areas, campsites and road and trail locations. The plans should include the layout of the roads in relation to control of erosion and runoff. Roads must be located so that people will follow them as they travel to the attraction sites.

Well planned access routes not only control erosion, but help in creating compatibility between livestock movement and recreationists.

The importance of planning for multiple use cannot be stressed too much. If the users clash, even on minor points, the chances for maximum development are seriously curbed.

Whenever the attraction sites are large enough for and capable of supporting development, such facilities as tables, fireplaces and toilets should be constructed; thus cutting down wear and tear on the land while obtaining optimum use.

A very significant category of changes or improvements that must be confronted to gain maximum use are the legal problems. There is a real necessity to get new or updated laws to cover fire protection, littering, vandalism, and public liability. The situation is important enough to require special statewide committees to study and draw up legislation to solve these most serious points.

Memoranda of Understanding between private landowners and public land agencies need to be drawn up to gain mutual cooperation in matters of recreation and to facilitate good recreation management over large areas.

Educational programs pointed toward the potential of recreational uses of the grasslands need to be instigated so urban people will realize the enjoyment of grassland based recreation. Landowners need to recognize that recreation represents a possible source of income. Also they need to realize that they have a responsibility to the betterment of the general environment and the general well-being of our country.

Financial Impact from a 500% Increase in Recreation Use of the Grasslands

Income from recreation on grasslands will come in many forms, both tangible and intangible.

The most easily realized and assessed will be the income to private land holders who may wish to take advantage of the desires of the public and charge a fee for services, facilities and use of the rangeland for recreational purposes.

Nearby urban areas will be enhanced by more people coming to the community to enjoy the pleasures of the rangelands.

In general, social values will be improved by having additional recreational areas available for people.

Time Table for Goal No. 5

4 Years -- Recreation will increase 100% on the grassland

6 Years -- increase 200%

8 Years -- increase 300%

10 Years -- increase 500%

Guidelines for Implementation of Goal No. 6

IMPROVEMENT OF WILDLIFE HABITAT ON NATIVE RANGES

Situation

Montana has always been famous for its wildlife. Early history infers the plains and mountains abounded with elk, antelope, buffalo and deer; while the streams had large numbers of waterfowl, beaver and fish.

The settling of Montana drastically changed all this. Although the pioneers, homesteaders and miners for many years lived off the game or supplemented their diet with wild meat, the greatest impact on wildlife was the alteration or in some cases destruction of wildlife habitat. Since that time, game laws, protected areas and parks have aided wildlife to return and to increase in numbers. Wildlife are dependent on and products of their habitat. The quality and quantity of the habitat is a measure of the health of a wildlife population.

Montana is blessed with hundreds of animals and birds that could be increased in numbers, and perhaps even variety, if the habitat were improved. Such birds as grouse, ducks, geese, songbirds, etc. would increase in number if the situation were favorable. Small animals that ordinarily do little harm and usually much good should be restored to numbers in balance with conditions of today.

Man's presence must be taken into consideration. There will never be as many as the original numbers of some species such as the buffalo, but a reasonable balance can be obtained with planning and development.

Goal

To have the wildlife habitat on native ranges improved to encourage more stable wildlife populations.

Approach

The first and by far the most important item necessary to create or maintain a good wildlife population is an excellent vegetative cover. This will come as the Montana Rangeland Resource Program progresses with its primary objective which is improved range condition.

Range management planning can easily accommodate wildlife in wide variety by taking into consideration the basic requirements of the wildlife, particularly their needs for food and shelter.

Ranchers with management plans that provide for ample forage can more easily set aside reasonable areas that have wildlife habitat as their highest production. These plans are more easily implemented when the hard competition for every spear of grass is eliminated.

Curbs on some types of animals may be necessary to provide a good working and living balance. Wildlife, like livestock, must be kept in balance with the food supplies. In most instances, some hunter harvest of wildlife must occur.

Ranges in good to excellent condition can easily support numerous varieties of small birds and animals in large numbers with little competition among species.

Financial Impact from Improvement of Wildlife Habitat

There will be many financial improvements in the general overall area of the state. These are quite difficult to separate from other general income categories.

Increased numbers of game always draw more sportsmen -- and their money -- which is a direct benefit.

A situation of widespread game will also tend to draw additional people who will be more evenly spread over the entire state.

Large varieties of birds and animals and improved scenic beauty may draw people to Montana who are interested in such things as photography and other aesthetic values.

Time Table for Goal No. 6

Because of the close correlation between range condition and animal numbers, a time table is not reasonable.

Education programs and range plans should begin immediately and continue indefinitely. This is one situation that never is completed.

ENVIRONMENTAL ENHANCEMENTS

Montana and the nation will receive many benefits as this rangeland program progresses toward its goals.

The following is a brief list of a few general categories that will greatly enhance the environment.

1. Accelerated or induced soil losses from wind and water erosion on native ranges will be virtually eliminated.

2. Pollution of air or water from grazing lands will be reduced to a minimum.

3. The beauty of Montana will be enhanced greatly by restoring nature's mantle of grass from border to border.

4. There will be increased production of sediment-free water from rangelands for better grass growth, recreation, urban and industrial uses, and stabilized stream flow.

5. The economic situation of Montana will be generally improved by having a more enticing environment. Examples are:

   A. Safeguarding water supply for urban development.
   B. Stabilizing and maintaining the family type ranch.
   C. A more attractive rural community.
   D. Scenic beauty.
   E. Stabilize the economy of the rural community.

IMPLEMENTATION OF PROGRAM

To accomplish the goals outlined in this program, the first and most important step is coordination.

No specific enforcement powers have been incorporated in this plan. Because of the wide spread scope of the resource, it is most important that we establish and insure general voluntary participation by all persons concerned.

The program is financed and supervised by the Department of Natural Resources and Conservation, Conservation Districts Division. The Department will supply office space for the State Coordinator and his staff in their offices in the Capitol Complex at Helena. The Department is responsible for providing financing from their budget for wages, travel, office supplies, and miscellaneous expenses for the Coordinator. Other sources of funding such as grants-in-aid endowments and gifts will be used as necessary.

The Department is responsible for hiring a qualified Coordinator and supervising his activities in carrying out the State Rangeland Resource Program.

Advisory responsibility and guidance will be secured from a 21-member council. Five members of the council and the chairman will be private land occupiers appointed by the Conservation Districts Division. They need not be members of any designated organization. The remaining fifteen members of the Council will be authorized representatives of federal and state agencies and other organizations interested in rangeland management.

The Advisory Council will meet annually, and in special session as often as deemed necessary to fulfill its responsibility.

Duties of the Advisory Council are to review and develop annual and long range work plans, set priorities of work and offer advice and counsel to the Conservation Districts Division for carrying out the Rangeland Resource Program within the funds available.

ADVISORY COUNCIL

21 Members

CHAIRMAN	A rancher member and member of Conservation Districts Division
Rancher	Eastern area of state
Rancher	West of Continental Divide
Rancher	Southern area of state
Rancher	Northern area of state
Representative of	Soil Conservation Service
	Cooperative Extension Service
	United States Forest Service
	Director of Agriculture, MSU
	Farmers Home Administration
	Montana Stockgrowers Association
	Department of Planning and Economic Development
	School of Forestry, University of Montana
	Department of Fish and Game
	Bureau of Land Management
	Montana Woolgrowers Association
	State Forestry Division of the Department of Natural Resources and Conservation
	Bureau of Indian Affairs
	Montana Cattlemen's Association
	Department of State Lands
	Society for Range Management

THE STATE COORDINATOR

Since implementation will be possible only by advice, counsel, and coordination, this creates a situation requiring the services of a highly qualified coordinator. His qualifications will need to be unique to accomplish the tasks outlined in the program. He will have to be well versed in the science of Range Management, but not necessarily a college graduate in this field. A good basic working knowledge, plus the ability to assemble the expertise, is of much greater importance.

The most stringent requirement of the Coordinator is the ability to communicate between all parties affected, from the practicing rancher to the scientist in his laboratory, and all persons in between.

To accomplish this, the Coordinator must have as much freedom of action as is possible under normal employer-employee relationships. His position of unbiased neutrality must be protected by all affected parties if the state is to gain maximum benefits from this program.

Another important qualification is the ability to negotiate agreements between agencies on all levels of government while maintaining the confidence of everyone concerned.

Many times the Coordinator will find himself in the position of arbitrator. He will definitely have to be able to settle disagreements in a manner that leaves him in a position of continuing a good working relationship with all parties after the problems have been solved.

The Coordinator will need a practical knowledge of the cost of improvement projects to insure the success of recommended programs. Reality is vital to the success of the program.

There are already many agencies and institutions staffed with competent professionally trained personnel to implement this program. Thus, it is not the intent of this program to have the Coordinator supply technical or physical assistance, but to act only in the role of advisor, counselor, and coordinator.

In the field of recreation the Coordinator will strive to bring about understanding and compatibility between recreationists and ranchers. Work must be done to correct weaknesses in fire protection, vandalism, litter and public liability laws and responsibilities.

Examples of the value of recreation potential on good and excellent condition range should be emphasized to landowners. Management plans will be coordinated to minimize conflicts between governmental agencies and private landowners.

The Coordinator will need to participate in zoning and planning studies to insure that native ranges are adequately represented at sessions for development of zoning and planning regulations.

One of the duties will be the coordinating of range management research. We are, at present, experiencing a certain amount of duplication in research projects by the various organizations involved. It certainly will be the responsibility of the Coordinator to bring overlapping and duplication to the attention of the persons concerned, then offer his service to try to assign the work in the essence of efficiency and time. Whenever the Coordinator finds a need for research, he should impart this knowledge to the logical person or place and make all effort to get the program under way.

These are just a few of many duties. Thus, it will be necessary for the Coordinator and the Advisory Council to select which problems or projects should receive priority.

It is evident that the success or failure of this Rangeland Resource Program rests heavily on the ability of the Coordinator to perform his duties in an effective and efficient manner.

SPECIFIC PROJECTS

The following items are a few of the many projects that will be emphasized:

1. To provide language to be used by the legal profession when drawing up sale contracts, leases, endowments, etc., that will provide for range management protection to be applied on the lands affected.

2. Negotiate agreements with loaning groups - both in public and private - whereby principal payments can be deferred while specific range management programs are established on the lands covered by the loans.

3. Strive to establish at least one pilot Range Renewal District and two Range Project Areas in next five years.

4. Assemble a rangeland inventory, including economic impact, to be completed and presented to the Governor and the Division of Planning and Economic Development, Dept of Intergovernmental Relations.

5. Identify demonstration ranches strategically located throughout the state.

6. Develop a catalog of stockwater development ideas.

7. Assist in establishment of range research projects under the supervision of the Montana Experiment Station.

   A. Grazing Systems Study
   B. Comparison Study of Management Operations

8. Offer the range program to county planners and county planning boards.

9. Investigate the potential of weather modification on different range areas in Montana.

10. Develop a rangeland brochure for each individual county.

11. Develop a state rangeland resource program brochure.

PROGRAM RECOMMENDATIONS OF A GENERAL NATURE

This section lists proposed projects of long duration. Those listed are just a few of the total. New ones should be added periodically. Several groups and individuals will generally participate jointly in these projects. The Coordinator and Council will periodically review this section for additions and priorities.

1. All federal and state organizations should be encouraged to coordinate and unify range survey analysis methods and management techniques so the data can be uniformly interpreted and be interchangeable among all agencies.

2. The concept of optimum development of all compatible uses should be accepted and applied to all public lands.

3. The optimum development concept should be explained to private range landowners and they should be encouraged to adopt this concept.

4. Budgets of federal and state agencies should be reviewed to more accurately reflect the importance of their respective responsibilities on grazing lands.

5. Contract-type cost sharing should be made available for all rangelands in Montana. (Great Plains concept)

6. Accelerate use of FHA and other federal loans and grants made to grazing associations, recreational areas and urban industrial areas. Include more strict provisions regarding management of range areas affected by loans. (This is a good management control device).

7. Existing Memoranda of Understanding should be re-examined by all state and federal agencies. They should be updated to fill in gaps to expedite communications.

8. The 2 1/2% funds from state-owned lands will be used to cost-share for development and improvement of state lands. Improvements made with these 2 1/2% funds should be promoted.

9. More range schools and tours should be promoted. (Example: Agricultural Lender's School and Rancher's Range School).

10. A Conservation Education Coordinator should be placed in the Department of Education and rangeland resource management should be emphasized.

11. RC&D Projects should put more emphasis on range management in their programs.

12. ASCS cost sharing practices should be closely related to management plans, especially in range practices.

13. Native range fertilization should be given more priority in range research programs to document the advantages and disadvantages of range fertilization.

14. Practices involving use of insecticides and herbicides will be carefully examined so hazards can be eliminated and progress can be accelerated.

15. There should be a substantial increase in research on mechanical and biological methods of brush and plant control.

MISCELLANEOUS COINCIDENTAL PROJECTS AND PLANS THAT AFFECT THE RANGELAND

This section, like the two previous ones, contains only a partial listing. It is assembled as an example of what should be considered.

One of the high priority activities of the Coordinator will be the creation of a more complete listing of these projects and plans and to ascertain just what effect they have on the rangeland or what the rangeland's part will be in these plans.

Montana is large and so is the number of differing resources and economic endeavors found within its borders.

Determining responsibilities for reclaiming disturbed areas is sensitive. Only by joint well thought out action program, participated in by all parties, will sensible results occur. Examples are:

1. Mined over area - reclaimed
2. Urban beautification plans in range settings
3. Industrial areas - reclaiming and planning
4. Municipal or industrial water supply
5. Waste disposal area reclamation
6. Highway beautification
7. Rural visits for traveling public
8. Utility rights-of-way revegetation
9. Airport maintenance
10. Revegetation of military sites (firing ranges and impoundment areas)
11. Revegetation of logged areas
12. Revegetation of exploratory prospect disturbances for minerals, coal, oil.

ECONOMIC IMPACT OF RANGELAND IMPROVEMENT IN MONTANA

A direct impact will be felt in many areas of Monana's economy when the rangeland improvements are accomplished.

The following list includes several large categories where increased income can be expected. Also several areas are listed where substantial savings will be realized.

A part of this section shows the various ways that the income will be produced in several different businesses such as livestock, recreation, and rural communities.

1. Increased Livestock Numbers
    A. Larger gross production
        (1) Higher lamb and calf crop percentage
        (2) Heavier weaning weights

2. Greater Recreational Potential
    A. More investment in facilities
    B. Increase in job market
    C. Larger gross income
    D. Higher net profit

3. Less Erosion Control Costs
    A. Water washing or flooding damage to property minimized
    B. Wind erosion damage at a minimum

4. Increased tax income at county, state and federal levels

5. Decrease in pollution control costs

6. Increased Property Values
    A. Ranch land values
    B. Business value (scenic backdrop)
    C. Increased business volume

Research conducted at experiment stations throughout the western range country has consistently shown the value of proper stocking and high condition ranges. Good range management means high calf and lamb percentages, heavy weaning weights and high net returns to ranchers.

Costs and returns of different levels of range management carried out by ranchers throughout Montana prove that good range management has a tremendous economic impact. The following example of a 5,000 acre range unit illustrates this economic impact. It is merely one of many studies carried out and represents an average of the composite.*

5,000 ACRE RANCH

	Fair Range Condition		Good Range Condition
	Overgrazed	Proper Use	Proper Use
Animal Units	200	100	150
Calf Crop%	75%	88%	90%
Weaning Weights	325#	400#	440#
Winter Feed Period	5	4	3
Gross Income	$11,245.00	$ 9,221.00	$13,851.00
Annual Costs	$13,164.00	$ 7,401.00	$ 8,243.00
Net Return	$-1,919.00	$+1,820.00	$+5,608.00

The difference in net return between poor management in Column 1 and good management in Column 3 is $7,527. This divided by 5,000 acres shows that management in Column 3 netted $1.50 more per acre than management in Column 1. The net return in Column 3 was $3,888 more than in Column 2.

To get an average net return for fair condition range, Column 1 and Column 2 were averaged together. The good condition range netted about $1.15 more per acre than fair condition range.

Economists state that money coming into an agricultural community will double through business transactions within the community. This economic impact could be $2.30 per acre for each acre improved from fair to good condition range.

There are approximately 30,000,000 acres of fair to poor condition range in Montana that have a potential of being improved to good or excellent condition.** This 30,000,000 acres multiplied by $2.30 amounts to a potential increase of nearly $70,000,000.

The present annual income from tourists and out-of-state recreationists amounts to about $125,000,000. Space is needed for more outdoor recreation and much must be provided on private lands. Ranchers' income from this course could be enhanced with improved range conditions and a change in ranch management operations. Ranchers have a golden opportunity to supplement their regular income by taking advantage of recreational opportunities such as paid guide services, pack trips, family ranch vacations, hunting, fishing and camping privileges, etc. These enterprises plus the

the necessary supporting businesses such as motels,hotels, restaurants, sporting goods stores, etc. would add materially to the annual income of the state.

Simultaneously, an increased tax base will be established. Revenue from income tax will be increased by an impressive amount. Property values can be expected to increase and stabilize with the improvement of range conditions and development of recreation facilities. Tax revenues from increased livestock numbers resulting from range improvement will be appreciable.

Other benefits will be in the form of savings of money and environmental improvements from reduction of pollution and erosion from the rangelands. There should be lower maintenance costs on city water supply systems, less pollution in streams and lakes and less flood damage. A high quality stabilized water supply will make water development for both urban and rural areas much cheaper and more dependable.

* In recent years ranchers throughout Montana, with assistance from Conservation Districts, have carried out more than one hundred studies of costs and returns of different intensities of range management records and opinions of over one thousand ranchers.

** Taken from Conservation Needs Inventory records compiled by the U. S. Soil Conservation Service.

OVERVIEW

The Montana Rangeland Resource Program is put together with the many existing conflicting situations and traditions of time in mind.

Any program that affects such a large industry as agriculture in Montana requires the backing and general approval of the primary people affected. They are the land occupiers or ranchers. To get this backing, it is necessary to strictly adhere to the basic fundamental concept under which our nation and state were created.

This fundamental concept is freedom for an individual to work and live in his own way to provide a living for his family as long as he does not encroach on the freedoms of others. With this freedom goes the responsibility, as citizens, to protect the natural resources of this land so all people, now and in the future, will have the same privileges to live and work in the free manner we enjoy today.

Those responsible for safeguarding the land are entitled to technical assistance, advice and guidance in management and use of the resource.

With this in mind, this program is based on counsel and advice. If people are properly informed, management planning can be coordinated and duplication minimized. Then proper range management on native ranges will become a reality without the need for many more rules and regulations than are in effect today.

Necessarily, some rules and laws such as zoning and pollution laws will be changed in the future. However, if a major portion of the recommendations of this program are accomplished, then the number of new regulations can be held to a minimum.

To gain maximum progress in the most rapid manner, the following steps are set forth:

First, because coordination is a key to progress, the position of State Rangeland Resource Program Coordinator was established on the precept that the position be one of advice, counsel, and coordination. The strength of the Coordinator will rest in his abilities to work with people and agencies, to gain cooperation from concerned organizations and inform people of the value and importance of range management and plans or projects to achieve good management.

Second, prepare a resource inventory of the native rangelands and their needs and priority for management and treatment.

Third, ten year goals of accomplishment have been established. Each goal has been considered separately and its situation analyzed. Suggested implementation, including time schedules and financial impact, are included.

Fourth, the plan contains a general outline of methods that can be used to reach the goals.

Fifth, a financial impact section is included to justify the need for a program and also give basis for future monetary requests when and as they become necessary.

Sixth, there are lists of specific and general recommendations that will help to get the program in operation in an orderly manner. Also included are projects and plans of specific nature needing immediate attention. These lists represent only a small portion of the work load but it does give a place to start.

Seventh, the broad scope of management of native ranges involves many fields which may appear, on the surface to have no connection but in reality are directly affected. Examples are urban sprawl and strip mined lands and their reclamation. A section of the plan is devoted to this wide variety of problems.

Eighth, encourage agencies and institutions to more closely coordinate their programs.

Ninth, to foster a comprehensive education program to inform the people.

With proper implementation of the State Rangeland Resource Program the entire scope of renewable natural resources will be improved for our renewable natural resources are, without doubt, the greatest source of wealth we have at hand today. This additional wealth is probably the easiest to attain of any we have in Montana. Here we can get economic improvement without large inputs of capital investment, importing large numbers of workers (with all their problems) and infringing on already established industries.

The opportunity is here, the need is great, the goals are high. The challenge can be met through the properly coordinated, sincere efforts of all who will benefit from this important program.

A P P E N D I X N O. 1

BASIC DATA

FOR

SUPPORT OF RANGELAND PROGRAMS

BASIC DATA TO SUPPORT RANGELAND PROGRAM

The Science of Range Management requires a vast amount of information to be used by range scientists in research, education and the application of their work with the resources.

Appendix No. 1 contains the following materials which are included to indicate the variety of facts required in broad area planning of our rangelands.

A. State Soil Survey Map (general)

B. Land Use Map

C. Rainfall Data Map

D. Range Condition Map

E. Geographic Map of Montana

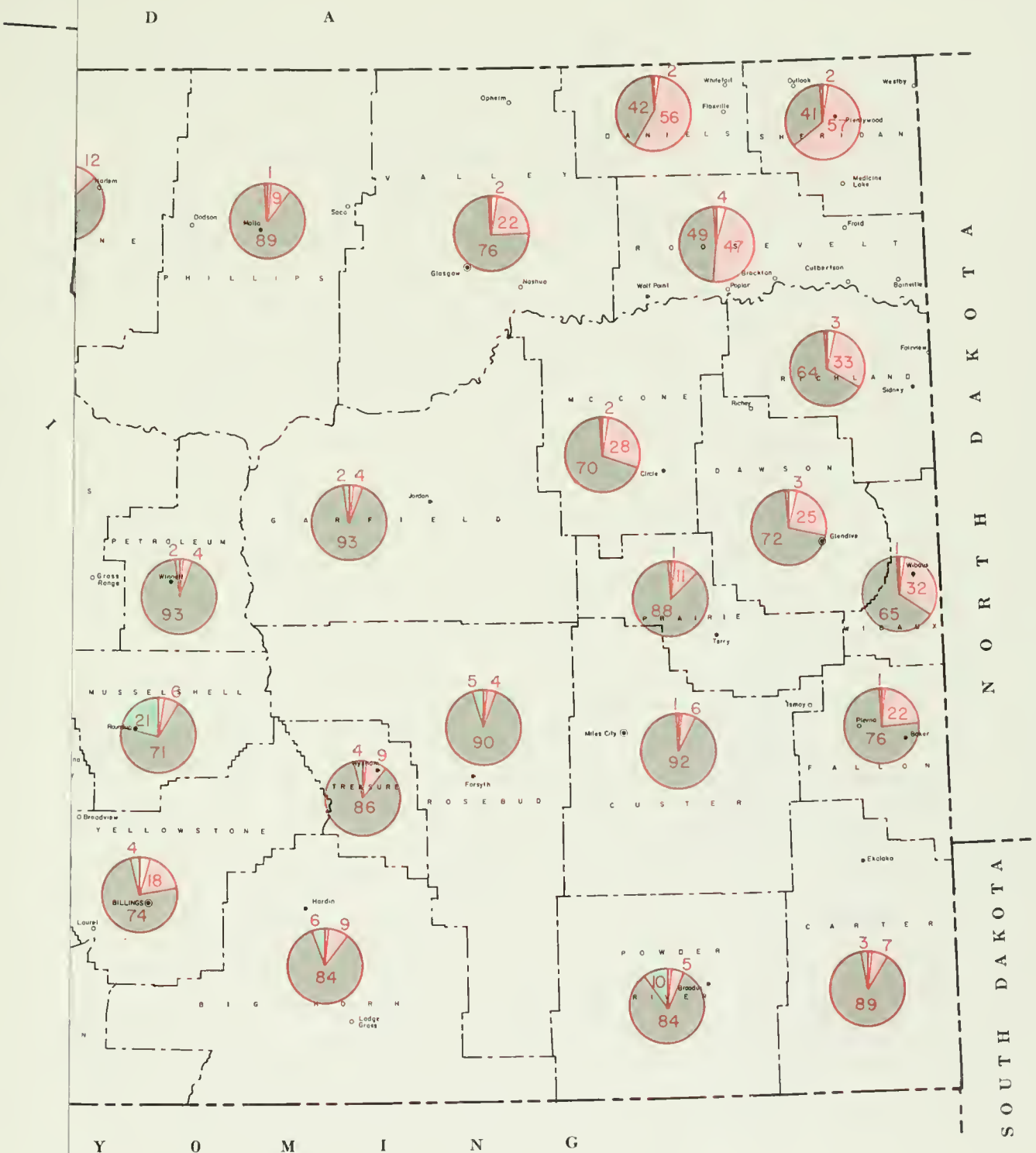
F. Value of Shrubs and Trees

G. Rangeland Resource Data

H. Persons and Groups who have responsibility in Range Management

U.S. D

SOIL CONSERVATION SERVICE



Cropland

Rangeland

Woodland

Other

LAND USE

MONTANA

DECEMBER 1971

10 0 10 20 30 MILES

SCALE 1:2,500,000

USGS N
Equal-A
for base

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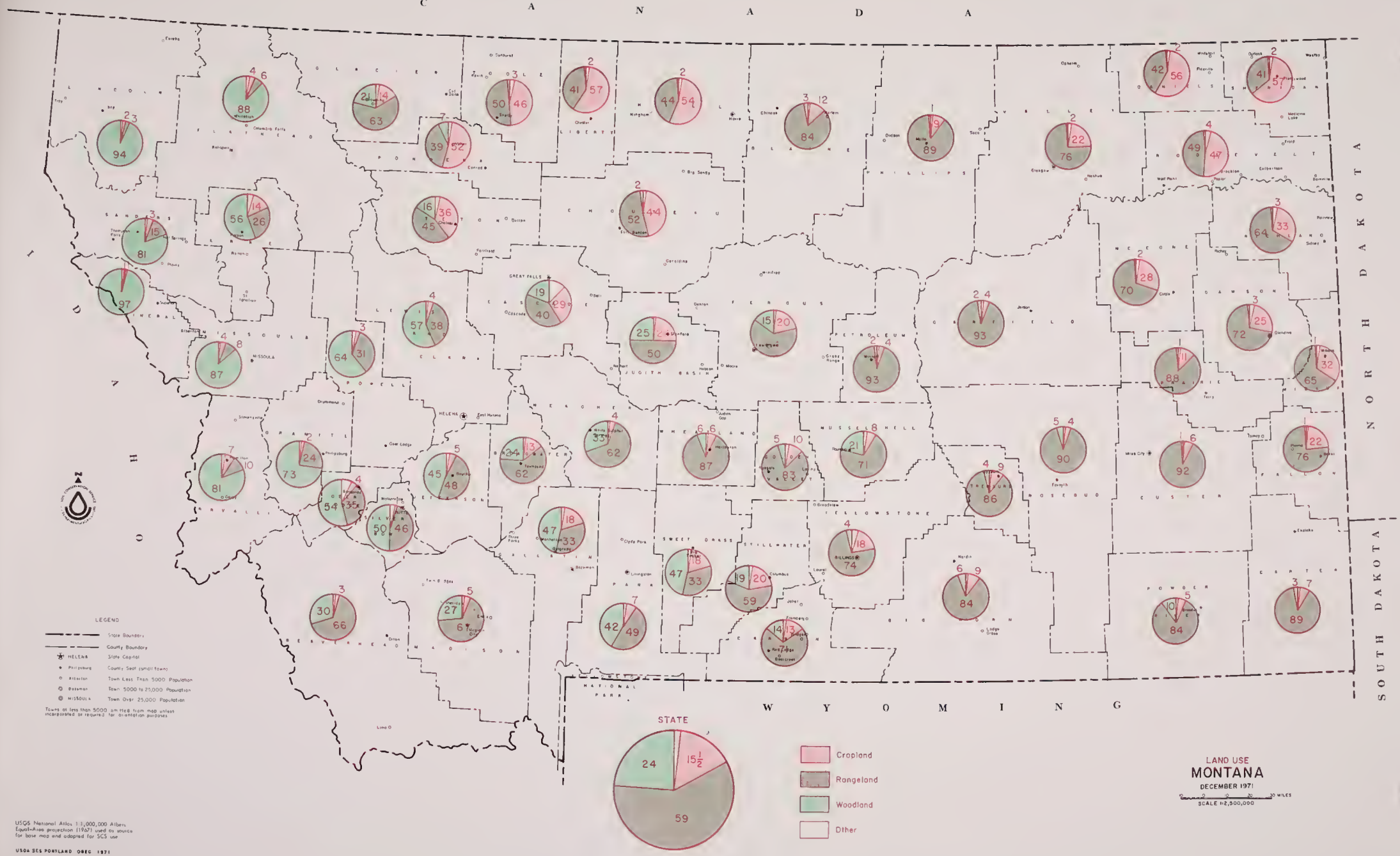
U.S. DEPARTMENT OF AGRICULTURE

MONTANA

SOIL CONSERVATION SERVICE



USGS National Atlas 1:1,000,000 Albers Equal-Area projection (1967) used as source for base map and adopted for SCS use

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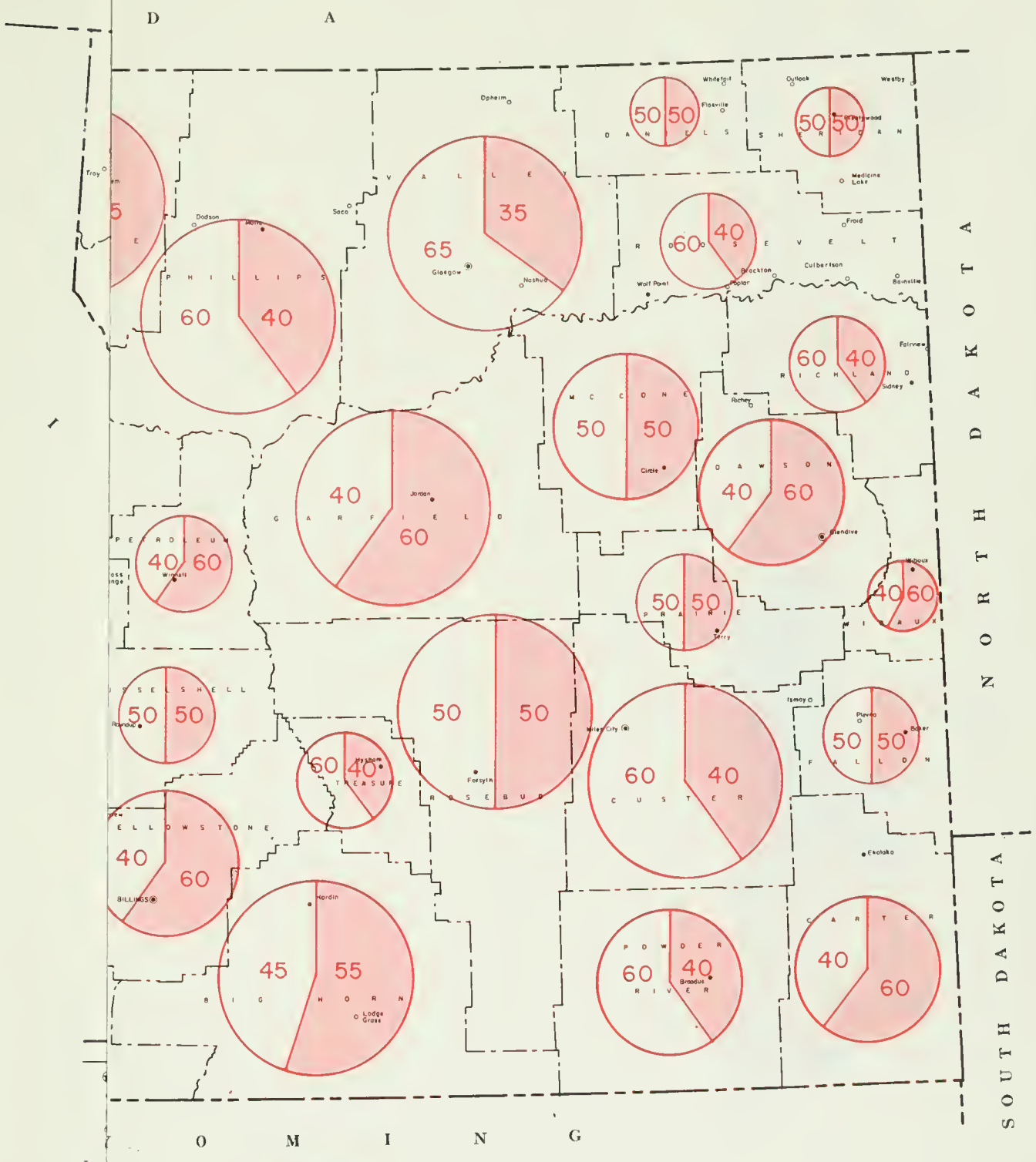

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STATE RANGE RESOURCE
70% OF LAND

RANGELAND RESOURCE

MONTANA

DECEMBER 1971

SCALE 1 2,500,000

USGS National
Equal-Area proj
for base map on

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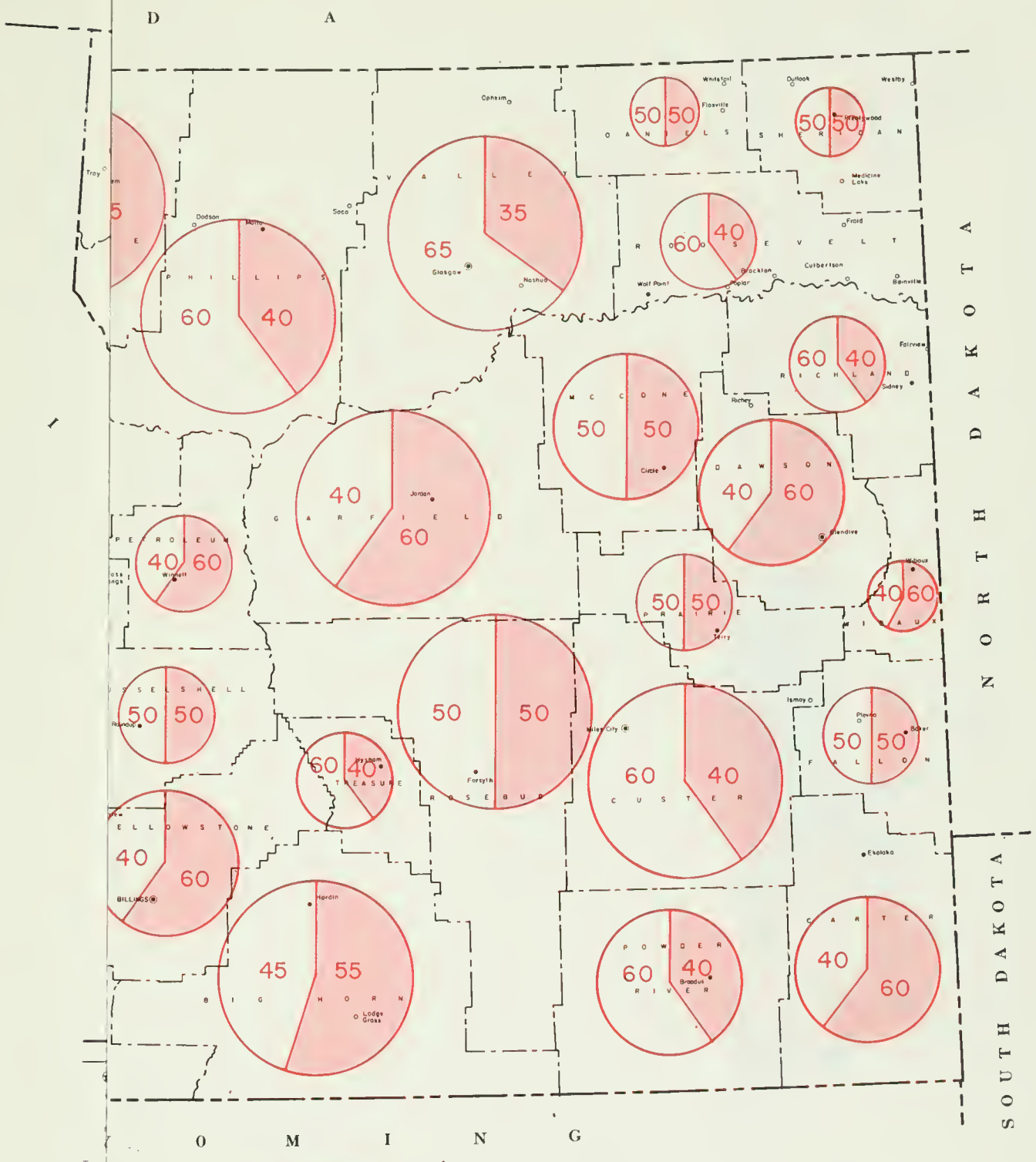

52 48

STATE RANGE RESOURCE
70% OF LAND

RANGELAND RESOURCE

MONTANA

DECEMBER 1971

0 10 20 30 MILES

SCALE 1 2,500,000

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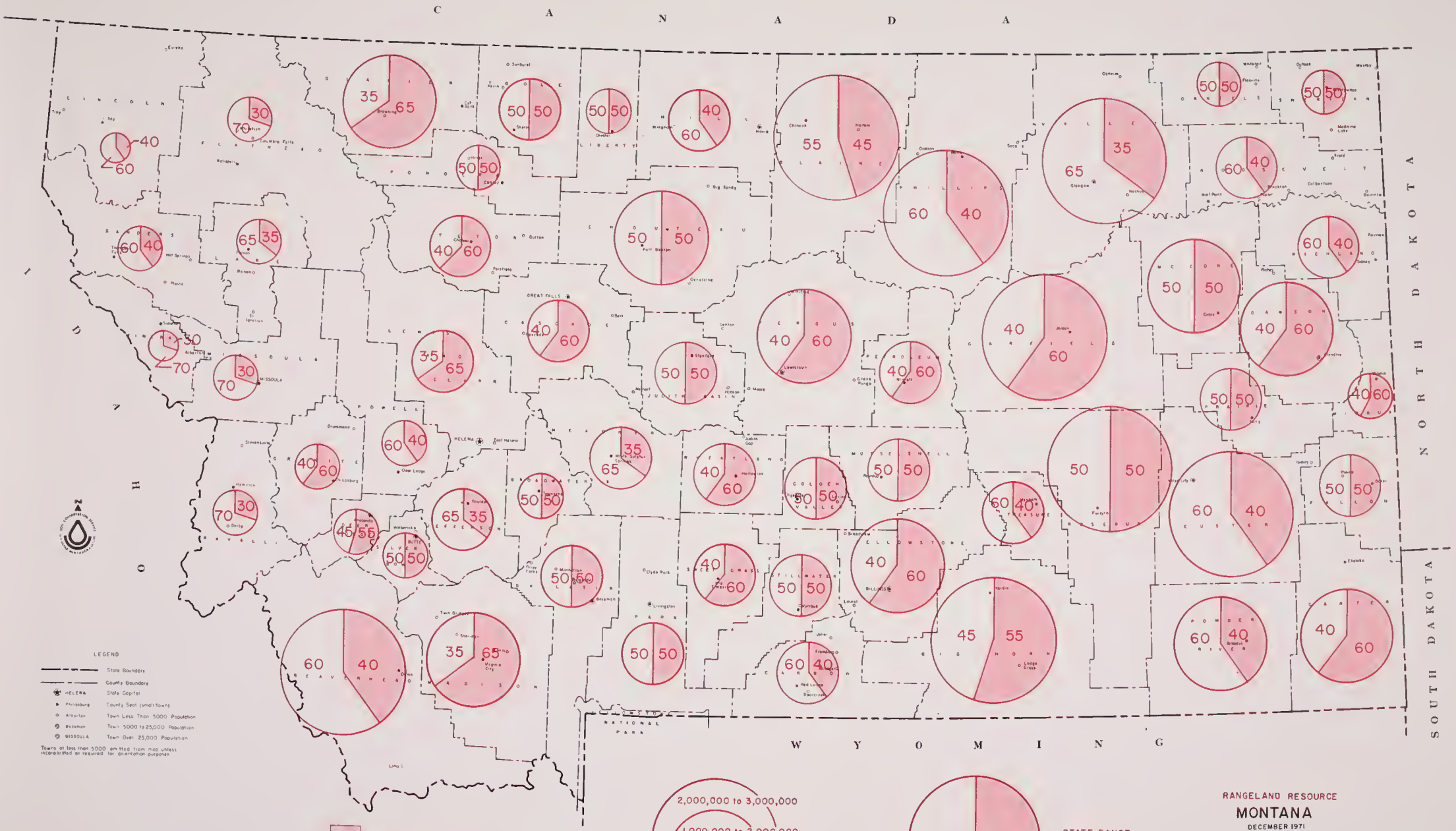
U.S. DEPARTMENT OF AGRICULTURE

MONTANA

SOIL CONSERVATION SERVICE



U. S. DEPARTMENT OF AGRICULTURE MONTANA SOIL CONSERVATION SERVICE

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MONTANA

RANGELAND AND GRAZABLE WOODLAND INVENTORY

County	Total Land Area Acres (Private & Public)	Private*** Range and Grazable Woodland	Federal** Range and Grazable Woodland	Total Range and Grazable Woodland (Private & Public)	Livestock* and Livestock Products Sold
Beaverhead	3,549,870	1,163,877	1,575,025	2,738,902	11,127,675
Big Horn	3,217,626	2,766,633	32,062	2,798,695	8,573,000
Blaine	2,730,880	1,811,813	460,344	2,272,157	7,980,325
Broadwater	766,720	356,302	157,374	513,676	2,698,600
Carbon	1,324,800	581,668	250,000	831,668	5,602,700
Carter	2,120,320	1,325,035	602,279	1,927,314	5,472,700
Cascade	1,701,760	927,764	171,915	1,099,679	9,032,800
Chouteau	2,508,800	1,178,625	145,919	1,324,544	4,688,275
Custer	2,409,600	1,913,635	344,689	2,258,324	6,510,275
Daniels	923,520	352,896	358	353,254	1,770,925
Dawson	1,509,120	984,402	67,968	1,052,370	4,337,450
Deer Lodge	472,320	200,422	35,508	235,930	785,025
Fallon	1,045,120	651,935	122,621	774,556	3,198,875
Fergus	2,716,160	1,546,813	454,898	2,001,711	9,047,275

County	Total Land Area Acres (Private & Public)	Private Range and Grazable Woodland	Federal Range and Grazable Woodland	Total Range and Grazable Woodland (Private & Public)	Livestock and Livestock Products Sold
Flathead	3,289,600	206,994	336,502	543,496	3,926,325
Gallatin	1,610,880	460,021	250,000	710,021	8,543,800
Garfield	2,940,800	2,060,983	670,929	2,731,912	5,864,150
Glacier	1,903,360	1,060,118	24,592	1,084,710	3,189,000
Golden Valley	753,920	616,693	30,000	646,693	2,105,850
Granite	1,109,120	293,291	217,050	510,341	2,462,425
Hill	1,872,640	679,683	38,441	718,124	2,999,000
Jefferson	1,056,640	368,846	350,000	718,846	2,246,900
Judith Basin	1,203,200	557,822	250,000	807,822	4,742,500
Lake	960,000	392,082	70,000	462,082	6,955,800
Lewis & Clark	2,218,240	908,190	580,108	1,488,298	4,322,425
Liberty	920,960	335,554	22,747	358,301	1,182,025
Lincoln	2,377,600	329,630	169,716	499,346	684,275
Madison	2,259,200	923,156	911,943	1,835,099	6,942,525
McCone	1,660,160	843,676	246,466	1,090,142	3,867,000
Meagher	1,506,560	906,719	250,000	1,156,719	3,826,550
Mineral	782,720	58,408	75,910	134,318	209,025

County	Total Land Area Acres (Private & Public)	Private Range and Grazable Woodland	Private Range and Grazable Woodland	Total Range and Grazable Woodland (Private & Public)	Livestock and Livestock Products Sold
Missoula	1,672,320	429,715	136,196	565,911	2,429,625
Musselshell	1,207,040	971,657	117,930	1,089,587	3,002,125
Park	1,681,280	518,329	300,000	818,329	4,302,975
Petroleum	1,056,000	637,087	358,294	995,321	2,317,500
Phillips	3,345,920	1,703,867	1,165,566	2,869,433	7,837,525
Pondera	1,051,520	339,397	91,729	431,126	4,847,650
Powder River	2,102,400	1,274,201	604,101	1,878,302	5,585,850
Powell	1,495,680	598,421	185,408	783,829	4,092,650
Prairie	1,105,280	511,826	450,078	961,904	3,368,100
Ravalli	1,525,760	190,173	62,160	252,333	4,868,550
Richland	1,321,600	731,052	53,262	784,314	4,340,250
Roosevelt	1,526,400	731,647	5,626	737,273	3,514,375
Rosebud	3,220,480	2,697,605	337,995	3,035,600	6,126,925
Sanders	1,791,360	583,923	500,000	1,083,923	2,198,475
Sheridan	1,087,907	368,722	21,401	390,123	2,774,075
Silver Bow	458,240	175,371	138,204	313,575	539,750
Stillwater	1,150,080	667,257	90,000	757,257	4,562,275

County	Total Land Area Acres (Private & Public)	Private Range and Grazable Woodland	Federal Range and Grazable Woodland	Total Range and Grazable Woodland (Private & Public)	Livestock and Livestock Products Sold
Sweetgrass	1,181,440	714,242	150,000	864,242	4,028,300
Teton	1,468,160	550,437	164,697	715,134	5,341,250
Toole	1,248,000	513,230	37,290	550,520	1,759,975
Treasure	629,760	561,892	11,694	573,586	2,009,350
Valley	3,175,040	1,303,735	1,094,886	2,398,621	6,803,000
Wheatland	910,080	726,193	50,000	776,193	3,082,475
Wibaux	568,960	350,423	26,398	376,821	1,976,225
Yellowstone	1,686,400	1,180,390	82,230	1,262,620	12,190,700
TOTAL	93,089,323	45,767,478	15,150,509	60,917,987	250,522,000

*Average of 1964 - 1967 census

**Based on woodland resource inventories and broad estimates.

***Conservation Needs Inventory Data

VALUE OF SHRUBS AND TREES ON RANGELAND

Shrubs and trees are an integral part of the range resource. Where they do not exist naturally, operators should consider the value of establishing them. Woody materials (1) provide shade and protection for livestock; (2) provide food and cover for wildlife; (3) enhance the beauty of the area; (4) are an essential part of most recreation areas; (5) provide additional erosion control with resulting reduction of silt pollution of streams, and (6) many species provide needed winter food for livestock and wildlife.

PERSONS AND GROUPS WHO HAVE RESPONSIBILITIES IN RANGELAND MANAGEMENT

The private landholder represents the largest single category having responsibilities in rangeland management. They own 70% of the land area of Montana and these lands produce 89% of the forage for domestic livestock plus a large share of the forage for wild game.

Private landholders are grouped into several subcategories based on their particular professions and locations. Those in the operator-owner category work, live on, and manage their lands directly. This usually results in good range condition because the land can be improved easiest in the shortest period of time by these individuals.

In the absentee owners' category are those who hold title to the land and are legally responsible for its condition. However, they operate their holdings by the use of many types of agreements with renters. Generally, absentee owners are proud of their lands but many times distance tends to obscure their vision in seeing problems as they occur.

In the renter and sharecropper category are those whose primary concern is the cash crops from the land. This tends to direct their interest in the land from development and protection to production because their occupancy is temporary and they are basically interested in cash income. This condition does not generally create the needed interest for excellent range condition that is necessary for the highest quality management.

Corporate holdings in Montana are an important category of our landowners. These large corporations, in the past, often acquired their land for reasons other than forage production. Usually the acquisition was for possible mining, timber or industrial areas.

To these people the cash return from grazing is minor in comparison to the basic incomes of the organizations. On the other hand, corporations that have been well informed regarding the importance of range condition and management have completed some of the most outstanding examples of range development that have been accomplished to date.

Grazing Associations financed by the Farmers Home Administration are relatively new landholders. They are groups of ranchers who have organized themselves and formed an association to purchase large areas of grazing lands. These associations have incorporated into their by-laws provisions that good range management is to be practiced at all times. This type arrangement is an example of the recognition of the importance of good management and the results of their efforts are showing up on nearly every unit.

Project areas of Conservation Districts are areas that can be established to carry out specific resource management and improvement proposals. Range renewal projects could be implemented through a project area approach.

Indian Reservations own very large areas of the rangelands in Montana. They have a major responsibility for getting improved management on the grasslands. Tribal Councils and other organizations are working hard to get range improvement through proper management started and accepted on these lands. There is a good potential for increased production as these plans progress and educational programs are initiated.

Railroad lands are a particular category of landholding in Montana. Basically these lands were given to the railroads to enhance their development and to assist in financing the original construction of the rail lines. The railroad companies are endeavoring through trained range specialists, to get proper management on these tracts, but the landlord-tenant arrangement gives them an absentee status that makes it difficult to gain rapid results.

STATE OF MONTANA

Several departments and bureaus of state government have responsibilities for grazing lands. The following have been selected for discussion since they have lands under direct management.

The largest state land manager is the Department of State Lands. This Department is responsible for the School Trust Lands and other smaller areas.

These lands are generally rented out on long-term leases to individual operators. These renters have applied all degrees of management. As a result, range condition varies from poor to excellent. The Land Department is moving rapidly into management planning with some development. In the future good results can be expected to appear on those tracts given concentrated attention.

The Department of Fish and Game has been steadily acquiring tracts of land that are important to both recreation and game management. These tracts are usually well managed and can be expected to improve in condition in the future. Population pressure on some of the areas which are used to gain access to streams and picnic sites will make it difficult to maintain a good condition range. Only special care can accomplish this task.

The Conservation Districts Division's responsibilities are to both the State Cooperative Grazing Districts and Conservation Districts. Two separate bureaus have been established to perform the duties - the Grass Conservation Bureau and the Soil Conservation Bureau - with the general administrative functions of the Montana Rangeland Resource Program being performed by the Grass Conservation Bureau.

The Division's basic responsibilities are to promote good natural resource management at the grassroots level; therefore the rangeland program is one of the highest priority items considered.

Conservation Districts have a two-fold responsibility. The first is a direct responsibility to properly manage any grasslands that may be owned by the districts. Whenever a district acquires land, proper management is applied not only for the benefits derived but so the area can be used for demonstrational and educational purposes. The second responsibility is to properly manage, protect, and utilize the soil, water and vegetative resources of the state.

Grazing Districts are real pioneers in the management of grasslands and have made good progress over the years. Their position is one of extreme importance in the improvement of Montana's rangelands.

Responsibilities of the State Forestry Division includes both timber and grazing management. Their lands are generally in the form of grazable timber lands. Grazing management is usually secondary to timber management; however, grazing management is being applied to these areas and good results are evident. With improvement of condition on the rangelands over the entire state, the State Forester's responsibility for fire protection become critical. Good to excellent condition ranges, with an abundance of vegetative growth, creates a fire hazard.

The State Experiment Stations have areas of rangelands that are used to carry out research projects. In the process of conducting research, some lands may decrease in condition. This is necessary to gain knowledge which will be beneficial to the total range management program. Generally the lands of the experimental station are well managed and in an improving condition.

Some University lands are classed as rangelands. These are usually well managed and planned and are either in good or improving condition.

Institutional lands of the state are now mostly well planned and in an improving condition. A good example is the prison ranch where excellent planning has been developed, and the vast acreage of rangeland is in good to excellent condition.

It is a responsibility of the state agencies to plan proper range use and practice above-average management on their lands.

THE FEDERAL AGENCIES

Various federal agencies control approximately 30% of the land area in Montana. Thus, these agencies have a large responsibility to the rangelands that they administer and an equal obligation to the grazing lands that are affected by the various agency's decisions and plans.

The Forest Service administers the largest area of federal lands in the state. Much of the National Forest land is suitable for grazing. It supplies summer forage for many ranchers, plus habitat and forage for wild game. Water production and recreation are primary responsibilities of these lands. The vegetative condition is generally good and planning activity can be developed between private lands and the National Forests.

The Bureau of Land Management is the designated agency to manage Taylor grazing and other similar types of federal lands. Their scattered and fragmented land pattern makes management difficult. These lands are often quite fragile and easily damaged by grazing and other disturbances, thus adding to the difficulties of land management. In most cases the management plans developed are directly affected by intermingled private lands. Also, any programs put in action have a like effect on private and state lands.

The Bureau of Indian Affairs own and manage approximately 125,000 acres. Primarily their responsibility is one of advice and guidance to the reservations. The BIA has an indirect responsibility for large areas of tribal owned rangeland on the different reservations.

The National Park Service has over a million acres of grazing land in Montana. These lands are intensively managed, but, due to the pressure of people and their demands, they are hard pressed to keep these ranges in an improved condition. Game management controls and travel patterns are high priority items in National Parks.

The Bureau of Reclamation has about 162,000 acres of rangeland included in their projects. The Bureau is responsible for seeing that these rangelands are properly cared for and good management planning is applied.

The Bureau of Sport Fisheries and Wildlife administers over one million acres of grazing land. These lands are managed and planned for improvement of the vegetative cover for watershed protection and food and habitat for wildlife. In many instances they also provide summer forage for ranchers' livestock. The rangeland administered by this Bureau does have some pressure from people which makes management somewhat more difficult than the average tract of private land.

The Agricultural Research Service plays a double role in research and land management. The ARS is responsible for managing its own particular rangelands in the best and most scientific manner. This is being done and their lands are in an improving condition.

In addition ARS is responsible for carrying on research on rangelands to help solve some of the many vexing problems confronting land managers and owner-operators.

The Army Corp of Engineers are not primarily grazing land managers by title or charge. However, they control more than one-half million acres in Montana and many of these tracts are rangeland. Planning and management of these areas is receiving adequate attention at the present time.

TECHNICAL ASSISTANCE

Technical assistance, particularly to the private landowner and/or operator, is vital to the management and improvement of Montana's rangeland resources. This assistance is also vitally needed by the many land management agencies so they may gain maximum results from their various programs.

The Soil Conservation Service is prepared to assist ranchers in developing and carrying out management plans that are based on the conservation needs of the individual ranch operation. The services are available upon request. The SCS, through Conservation Districts, has placed strong emphasis on vegetative practices. Evidence of this is the re-enforcement of their range management staff and the establishment of a Plant Materials Center at Bridger, Montana. At the PMC various varieties of native plants are studied and developed to make better plants available for revegetating cropland areas and establishing cover where needed.

With continued and increased efforts to improve the rangelands this technical assistance will also need to be expanded continuously.

The Cooperative Extension Service supplies technical assistance through a state, federal, and county cooperative program. The Service, through county agents and state specialists, serves a vital role in rangeland management programs. The major service they provide is education. Promoting range management to ranch operators, children in 4-H programs and the urban people is an important part of the education process.

The State Range Specialist has a large responsibility in getting ranchers to apply the latest management techniques and methods developed by research. In the future this part of the Extension Service program will become more important. A program of particular importance, presently being conducted by the Extension Service, is the Ranchers' Range Schools which needs to be expanded. Additional films and slide presentations are needed.

The 4-H Range Judging Contests and projects are moving along very well, but here again a larger program would help in increasing range management on the land.

The Montana State University Department of Animal and Range Science has produced invaluable research in grassland management in addition to its classes for range management graduates. The Department today is the nucleus of what will be needed in the future. The present quality is to be praised but its numbers will soon be far short of the need for personnel in research, land management, and the skilled owner-operators that will be required to meet the demands of our range management programs.

In a like manner, their research programs will need to be steadily broadened as the technical know-how on the land requires more intricate techniques in solving management problems.

The University of Montana School of Forestry's Range Management Department is a fine source of technical knowledge particularly in the field of grazable woodlands. Today's foresters need even broader education in range management techniques to fulfill the obligations placed upon them by today's public.

FINANCIAL RESPONSIBILITIES

The largest single financial contributor to proper range management is the landowner. This group of range managers will need to consistently invest large sums of cash into necessary projects such as grazing systems, spraying, seeding, fencing, and water development on their individual units. Individually these are not extremely costly and they will be incorporated as regular cost items in their yearly budgets.

Major projects of large size need special means of financing to spread the cost over several years. The generally accepted banking methods such as commercial and private banks, Production Credit Association, and Farmers Home Administration, have direct responsibility to supply credit to landowners in the medium range of financing over a short period of years. When the press from expanded rangeland development and improvement becomes greater, these financial institutions will need to give this type of loan a high priority: also, methods for making the transactions in the simplest manner need to be developed. Long term loans for the complete revamping of a range project need to be handled by insurance loans and land banks. This type of loan should be available to the owner-operator as another tool to gain good management.

The Soil Conservation Services' Great Plains Program supplies long term assistance. Additional money is needed in this program to meet the demands for range and other types of development.

All these programs should be studied to determine needed changes to bring them up-to-date for the benefit of rangeland resources improvement efforts.

PRIVATE ORGANIZATIONS INTERESTED IN RANGE MANAGEMENT

There are several private organizations that are interested in rangelands either directly or indirectly.

The most important organization that is devoted strictly to rangelands is the Society for Range Management. This is a world-wide group with a membership made up of range scientists, researchers, educators, land managers, and ranchers. Their goal is to advance the science and art of grazing land management. There are two sections of the Society in Montana - the International Mountain Section in Western Montana, and the Northern Great Plains Section in the Eastern part. This Society can supply a great deal of advice and counsel to such things as broad area planning and education programs.

The Montana Association of Conservation Districts is a statewide organization comprised of 59 districts that work in all resource fields. Through their corporation, this group owns the Plant Materials Center in Bridger, Montana. This Association sponsors range programs and conducts educational projects.

The Rural Area Development Committee is a volunteer group of persons assisted by the Extension Service to promote rural development. The RAD range management subcommittee is active in the range education field. This group is strongly rancher-oriented and will be extremely important in promoting future management programs.

The Agricultural Lenders Range School holds an annual campout where specialists come and conduct a range school for fifty or more bankers. This program has been a huge success and should be broadened in scope to more completely cover the entire state each year.

The Montana Conservation Council is made up of conservationists with a deep desire to improve the environment. Their work has concentrated on legislative matters and youth activities. This group has great interest in anything that promotes a good range management program.

The Montana Wildlife Federation is a state-wide sportsmen and conservation group that is dedicated to conservation and a more improved habitat for wildlife. Good range management is one of the practices that the Federation promotes. The efforts of urban groups to seek improvement of the general condition of the rangelands will be valuable to the rancher and sportsman alike.

Rod and Gun Clubs are usually the local extension of the Wildlife Federation with similar interests and objectives. The membership of these groups usually includes many ranchers and farmers. Although hunting and fishing is their prime concern, the general improvement of the land and cleanliness of the water is also a high priority item in their work.

The Montana Stockgrowers Association is one of the very oldest organizations in the state. Raising of livestock, use of public lands, and government controls are their high priority programs. Being ranchers, they are always vitally concerned with livestock forage. This organization is one of the moving forces of the state and has had much to do with nearly every vegetative program that has been put into action. The membership today is taking a serious look at the many different products of the grazing lands such as recreation and wildlife. There will be more activity in range management efforts arising from the Stockgrowers in the future.

The Montana Woolgrowers Association is a very influential organization in Montana. They have a history of progressive action on all matters of importance to their industry and the general public. While the sheep industry has decreased considerably in recent years, their actions are still very influential and the quality of their work is high. The programs of range management sponsored by the Woolgrowers are very effective. Additional programs should be promoted by organizations such as this and the Stockgrowers.

The Montana Cattlemen's Association is a relatively new organization in Montana. Its membership is also composed of stockmen who are primarily interested in good land management. This group has good potential in all areas of ranch management.